CDM Smith

Memorandum

To: *Paul Bucholtz*

From: *Team CDM Smith*

Date: *November ~~29~~30, 2012*

Subject: *Kalamazoo River Superfund Site Area 1*
             Preliminary Comments on Area 1 FS

The following are the key sediment (SED) and floodplain (FP) issues identified by the MDEQ review team to date:

1. SED - ~~SThe s~~ediment PRGs should be based on ~~the~~ RBCs for the relevant exposure pathways. The PRG discussion should begin with a discussion of ~~the~~ fish tissue concentrations to be achieved.

2. SED – Target tissue levels should be established that are protective of human health and the environment and consider tissue levels in fish collected from background areas (e.g., Ceresco Reservoir).

3. SED - The time trend analysis presented in the FS ~~appears to be~~is too simple and unreliable. MDEQ is working on an alternative approach based on a mixed order decay model to address this issue.

4. SED - The fish trend analysis is flawed, relying heavily on the assumption of continuing first order decay rates.~~.~~

    a. This assumption is flawed because past decay rates are driven by a combination of source control and natural processes, and source control efforts are largely complete, indicating that decay rates will decelerate as water and tissue concentrations equilibrate with sediment bed concentrations that are largely unchanging.

    b. MDEQ has repeatedly presented analyses showing that decay rates in fish tissues are decelerating.

    c. The mixed order model is one approach that MDEQ has used to illustrate these decelerating decay rates.

3. more robust methods to estimate the trend in fish tissue concentrations normalizing for fish length and lipid content. The subsequent use of the fish trends that do not consider a mixed order decay model is misleading.to compare SED alternatives is without merit and misleads the reader.

5. SED - The certainty of risk reduction and relative performance of the alternatives is misleading in the FS (for example see Figure ES-5). Uncertainty in risk reduction through removal of contaminated sediments and subsequent natural recovery should be addressed through long-term monitoring and contingent measures.

4.

6. SED– The list of developed SED alternatives should be expanded to include alternatives based on river reaches as opposed to the entirety of Area 1. For example, an alternative might be focused on the low slope, suspected high PCB sediment areas between Crown Vantage and Mosel AvenueOU2 and Crown Vantage. This could be an expansion of Alts SED-5A and SED-5B with areas and volumes increased to something less than SED-6.

5. SED- In addition, aA sediment alternative that achieves protective fish tissue concentrations immediately following remediation should be developed.

7.

8. SED-- The FS implies that hot spot removals differentiate the alternatives in terms of risk. A single alternative focusing onH hot spot removals should be developed and presented in the draft FScombined as one common aspect of the alternatives Hot spot removals should be combined as one common aspect of the alternatives.

6.9. SED-Additional RALs should be carried forward in the development of sediment alternatives.

7.10. SED - The FS paints a definitive picture of the role of Area 1 FP on the instream system. The lack of floodplain/bank data in this area makes such definitive assertions inappropriate.

8.11. SED – the The use of fish consumption advisories is not as protective of human health as presented by the PRPs. This conclusion will be refuted by MDEQ with references.

9.12. SED - The purpose of Appendices C1 and C2 with respect to the FS is not clear.

13. SED - The FS presents alternatives that do not result in fish tissue concentrations below risk based concentrations for all human health and ecological receptors. Agencies need to discuss the fish tissue goals to be used in the FS to evaluate protectiveness. Each alternative needs a discussion on protectiveness in relation to fish tissue goals.

10. presented in the FS (see also comment 2 above).

11.14.   SED - Table ES-4 and throughout document. The 1 in 10,000 excess cancer risk is presented as "EPA's target cancer risk". The 1 in 1,000,000 cancer risk is also an EPA's point of departure risk target (i.e., the point of departure)for risk reduction and should be presented without bias.

15. SED - The volumes and areas used for FS costs should be checked for relative accuracy by some method. Need to discuss with Agencies.

12.16.   FP – The RAOs for flood plain soils should be expanded to include an RAO focused on reducing the transport of contaminated sediment from flood plain soils to the aquatic system through bank erosion and/or inundation.

13.17.   FP – The FS continues to assert faulty risk claims with respect to the floodplain. (for example, the discounting of avian risk in favor of shrews). RALs for the floodplain alternatives should consider achievement of PRGs protective of avian ecological receptors such as the woodcock and other sensitive bird species.

14.18.   FP – The FS continues to ignore oversimplify the uncertainty associated with contributions of PCB to aquatic risk from inundation and bank erosion (see also comment 13 above). and is dismissive of this pathway..

19. FP – The assertion idea that the floodplains can be capped without ARAR considerations and permit equivalency determinations is flawed.

20. FP- The assertion that MNR will appreciably reduce PCB levels in the flood-plain is flawed.

15. The floodplain alternative should include a series of alternatives that focus on RALs between 0.5 and 20 mg/kg. These alternatives should be evaluated based the ability to achieve protective floodplain soil levels that consider the home range of the species.

16.21.   FP/SED Major - The agencies should discuss which RALs are appropriate for the FS alternative development (see comment 14 above)..

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